UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/479,432	01/07/2000	Charles R. Musick	IL-10443	3027

7590 04/24/2002

John P Wooldridge
Lawrence Livermore National Laboratory
P O Box 808 L-703
Livermore, CA 94551

EXAMINER
LY, ANH

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/479,432	Applicant(s) MUSICK ET AL.	
	Examiner Anh Ly	Art Unit 2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53 (renumbered)* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53 (renumbered)* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 12-17 and 38-52 are objected to because of the following informalities: On the first lines of claims 12-17, "The method of claim," replace with –The Model of claim--.

Renumber claims from 38-52 to 39-53 (pages 24-26).

On the first lines of claims 40-43 (old numbers), The model of claim," replace with –Computer-useable medium of claim--.

Appropriate correction is required.

2. Claims 1-53 are pending in this application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,746 issued to Knutson et al. (hereinafter Knutson).

With respect to claims 9 and 32, Knutson discloses abstractions, translations, mappings and database descriptions (col. 5, lines 32-38; col. 6, lines 62-67 and col. 7, lines 1-11; col. 12, lines 64-67 and col. 13, lines 1-25; col. 6, lines 62-67, col. 7, lines 1-15, col. 16, lines 65-67 and col. 17, lines 1-11).

Knutson does not clearly disclose "a DataFoundry metadata model comprising abstractions." But, however, Knutson shows the MDT data abstraction intelligence sub-system (col. 40, lines 38-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teachings of Knutson such as abstractions, translations, mappings and databases so as to obtain a DataFoundry metadata model for maintaining a data warehouse and provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

6. Claims 1-8, 11-121, 23-31, 34-44 and 46-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,746 issued to Knutson et al. (hereinafter Knutson) in view of US Patent No. 6,182,277 issued to DeGroot et al. (hereinafter DeGroot).

With respect to claim 1, Knutson discloses identifying a data source of interest; updating a metadata to reflect information available from said source; automatically generating a mediator based on said metadata; and writing a wrapper for said source as claimed (col. 1, lines 38-65, col. 4, lines 30-64, col. 7, lines 52-64, col. 16, lines 65-67, col. 17, lines 1-11 and col. 46, lines 8-45).

Knutson does not explicitly indicate, "a mediator based on said metadata."

However, DeGroot discloses the mediator as claimed (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of DeGroot so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claim 2, Knutson discloses wherein the step of updating a metadata comprises entering new types of information, new data formats for previously defined information, new transformations between data formats, and the schema of said source (col. 1, lines 25-56, col. 3, lines 25-29, col. 6, lines 62-67, col. 7, lines 1-18 and col. 26, lines 38-46).

With respect to claim 3, Knutson discloses a method for maintaining a data warehouse as discussed in claim 1.

Knutson does not explicitly indicate, "wherein said mediator is fully functional and is automatically generated by a stand-alone mediator generation program."

However, DeGroot discloses the mediator as claimed (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of DeGroot so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claims 4-5, Knutson discloses wherein said mediator generation program automatically defines an API and translation libraries and wherein said

mediator comprises code to translate between source and target representations, possibly using externally defined methods, and load data into said warehouse (col. 7, lines 11-15, col. 8, lines 55-64, col. 11, lines 30-67, col. 15, lines 1-55, col. 16, lines 26-67 and col. 17, lines 1-11).

With respect to claims 6-8, Knutson discloses a method for maintaining a data warehouse as discussed in claim 1. Also, Knutson discloses Wrapper as claimed (col. 30, lines 50-67 and col. 31, lines 1-45); a public data representation, wherein said wrapper uses said public data representation (col. 5, lines 30-55 and col. 11, lines 42-51); and to load data into said warehouse (col. 1, lines 30-65 and col. 4, lines 30-62).

Knutson does not explicitly indicate, "mediator generation program."

However, DeGroot discloses the mediator as claimed (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of DeGroot so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claim 11, Knutson discloses a DataFoundry metadata model as discussed in claim 9.

Knutson does not explicitly indicate, "mediator generation program generates a mediator."

However, DeGroot discloses the mediator as claimed (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of DeGroot so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claim 12, Knutson discloses a DataFoundry metadata model as discussed in claim 9. Also, Knutson discloses reading said metadata; generating translation libraries, generating API (col. 5, lines 32-38, col. 6, lines 52-67, col. 7, lines 1-15, col. 8, lines 55-64 and col. 11, lines 30-67).

Knutson does not explicitly indicate, "mediator generation program generates a mediator."

However, DeGroot discloses the mediator as claimed (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of DeGroot so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claims 13-17, Knutson discloses wherein the step of reading said metadata comprises reading the abstraction metadata; reading the translation metadata; reading the database description metadata; and reading the mapping metadata (col. 5, lines 32-38; col. 6, lines 62-67 and col. 7, lines 1-11; col. 12, lines 64-67 and col. 13, lines 1-25; col. 6, lines 62-67, col. 7, lines 1-15, col. 16, lines 65-67 and col. 17, lines 1-11); wherein the step of generating translation libraries comprises developing public and private class definitions and implementations of data structures (col. 5, lines 30-55 and col. 11, lines 42-51); wherein said data structures comprise said abstractions and said translations (col. 40, lines 38-55 and col. 6, lines 42-67 and col. 7, lines 1-15); wherein generating the mediator consists of creating public and private definitions and implementations of a class or classes capable of receiving data in one

format, converting it to another format, and loading it into a data warehouse (col. 5, lines 30-55 and col. 11, lines 42-51); wherein said data is received by a receiving data structure defined within said translation library and said data is loaded into a warehouse whose schema corresponds to the database description component of the metadata (col. 1, lines 30-65 and col. 4, lines 30-62; and col. 6, lines 42-48 and col. 7, lines 11-15).

With respect to claim 18-21, Knutson discloses wherein said method is applied to data warehousing applications in the domain of protein sequence and structure analysis (col. 4, lines 32-45, col. 39, lines 48-59, col. 46, lines 46-54 and col. 50, lines 12-21); wherein said method is applied to data warehousing applications in the domain of functional genomics and proteomics (col. 4, lines 32-45, col. 39, lines 48-59, col. 46, lines 46-54 and col. 50, lines 12-21); wherein said method is used for integrating a new data source into a data warehouse (col. 13, lines 22-67 and col. 14, lines 1-67); wherein said method is used for updating a warehouse when a previously integrated data source is modified (col. 46, lines 55-62).

With respect to claim 23, Knutson discloses wherein said data structures correspond to said abstractions and said translations (col. 6, lines 42-48, col. 7, lines 11-15, col. 16, lines 65-67 and col. 17, lines 1-11).

Claim 24 is essentially the same as claim 1 except that it is directed to a computer-useable medium rather than a method ('746 of col. 1, lines 38-65, col. 4, lines 30-64, col. 7, lines 52-64, col. 16, lines 65-67, col. 17, lines 1-11 and col. 46, lines 8-45;

'277 of see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claim 1 hereinabove.

Claim 25 is essentially the same as claim 2 except that it is directed to a computer-useable medium rather than a method (col. 1, lines 25-56, col. 3, lines 25-29, col. 6, lines 62-67, col. 7, lines 1-18 and col. 26, lines 38-46), and is rejected for the same reason as applied to the claim 2 hereinabove.

Claim 26 is essentially the same as claim 3 except that it is directed to a computer-useable medium rather than a method (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claim 3 hereinabove.

Claims 27-28 are essentially the same as claims 4-5 except that it is directed to a computer-useable medium rather than a method (col. 7, lines 11-15, col. 8, lines 55-64, col. 11, lines 30-67, col. 15, lines 1-55, col. 16, lines 26-67 and col. 17, lines 1-11), and is rejected for the same reason as applied to the claims 4-5 hereinabove.

Claims 29-31 are essentially the same as claims 6-8 except that it is directed to a computer-useable medium rather than a method ('746 of col. 30, lines 50-67 and col. 31, lines 1-45; col. 5, lines 30-55 and col. 11, lines 42-51; col. 1, lines 30-65 and col. 4, lines 30-62; '277 of see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claims 6-8 hereinabove.

Claim 34 is essentially the same as claim 11 except that it is directed to a model rather than a method (see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claim 11 hereinabove.

Claim 35 is essentially the same as claim 12 except that it is directed to a model rather than a method ('746 of col. 5, lines 32-38, col. 6, lines 52-67, col. 7, lines 1-15, col. 8, lines 55-64 and col. 11, lines 30-67; '277 of see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claim 12 hereinabove.

Claims 36-40 are essentially the same as claims 13-17 except that it is directed to a model rather than a method (col. 5, lines 32-38; col. 6, lines 62-67 and col. 7, lines 1-11; col. 12, lines 64-67 and col. 13, lines 1-25; col. 6, lines 62-67, col. 7, lines 1-15, col. 16, lines 65-67 and col. 17, lines 1-11; col. 5, lines 30-55 and col. 11, lines 42-51; col. 40, lines 38-55 and col. 6, lines 42-67 and col. 7, lines 1-15; col. 5, lines 30-55 and col. 11, lines 42-51; col. 1, lines 30-65 and col. 4, lines 30-62; and col. 6, lines 42-48 and col. 7, lines 11-15), and is rejected for the same reason as applied to the claims 13-17 hereinabove.

Claims 41-44 are essentially the same as claims 18-21 except that it is directed to a model rather than a method (col. 4, lines 32-45, col. 39, lines 48-59, col. 46, lines 46-54 and col. 50, lines 12-21; col. 4, lines 32-45, col. 39, lines 48-59, col. 46, lines 46-54 and col. 50, lines 12-21; col. 13, lines 22-67 and col. 14, lines 1-67; col. 46, lines 55-62), and is rejected for the same reason as applied to the claims 18-21 hereinabove.

With respect to claim 46, Knutson discloses wherein said data structures correspond to said abstractions and said translations (col. 6, lines 42-48, col. 7, lines 11-15, col. 16, lines 65-67 and col. 17, lines 1-11).

Claim 47 is essentially the same as claim 1 except that it is directed to an apparatus rather than a method ('746 of col. 1, lines 38-65, col. 4, lines 30-64, col. 7, lines 52-64, col. 16, lines 65-67, col. 17, lines 1-11 and col. 46, lines 8-45; '277 of see fig. 11, item 605,col. 14, lines 67-67 and col. 15, lines 1-35), and is rejected for the same reason as applied to the claim 1 hereinabove.

With respect to claims 48-53, Knutson discloses wherein said method is applied to data warehousing applications in the domain of astrophysics and climate modeling as claimed (col. 1, lines 38-45); wherein said method is applied to data warehousing applications in the domain of medical image processing and analysis (abstract, col. 1, lines 26-45, col. 2, lines 26-37, col. 17, lines 26-37 and col. 26, lines 38-46); wherein said method is applied to data warehousing applications in the domain of tracking consumer and customer preferences (col. 1, lines 26-45 and col. 39, lines 22-36 and lines 48-59); wherein said method is applied to data warehousing applications in the domain of satellite and terrestial communication systems analysis (col. 7, lines 46-67, col. 17, lines 38-50 and col. 38, lines 56-62); wherein said method is used for integrating a new data source into a data warehouse (col. 13, lines 22-67 and col. 14, lines 1-67); wherein said method is used for updating a warehouse when a previously integrated data source is modified (col. 46, lines 55-52).

7. Claims 10, 22 , 33 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,870,746 issued to Knutson et al. (hereinafter

Knutson) in view of US Patent No. 6,167,563 issued to Fontana et al. (hereinafter Fontana).

With respect to claims 10 and 22, Knutson discloses a DataFoundry metadata model as discussed in claim 9.

Knutson does not explicitly indicate, "a UML DataFoundry metadata representation."

However, Fontana discloses UML as claimed (col. 4, lines 30-48).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of Fontana so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

With respect to claims 33 and 45, Knutson discloses a DataFoundry metadata model as discussed in claim 32.

Knutson does not explicitly indicate, "a UML DataFoundry metadata representation."

However, Fontana discloses UML as claimed (col. 4, lines 30-48).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Knutson with the teachings of Fontana so as to obtain a method for maintaining a data warehouse because the combination would provide the method will have tools that are used to retrieve, analyze and present data from data warehouses, also let the users to reuse or re-generate the report over the new data and it would also be desirable to provide a method for allowing the user to segment and partition a database based upon attributes associated with the data in the database (Knutson - col. 1, lines 38-67 and col. 2, lines 1-8) in the database within a data warehouse environment.

Contact Information

8. Any inquiry concerning this communication should be directed to Anh Ly whose telephone number is (703) 306-4527. The examiner can be reached on Monday - Friday from 8:00 AM to 4:00 PM.

If attempts to reach the examiner are unsuccessful, see the examiner's supervisor, Kim Vu, can be reached on (703) 305-4393.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 746-7238 (after Final Communication)

or:

(703) 746-7239 (for formal communications intended for entry)

or:

(703) 746-7240 (for informal or draft communications, or Customer Service Center, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Inquiries of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

AL

JEAN M. CORRIELUS
PRIMARY EXAMINER

Apr. 18th, 2002.